IN THE CLAIMS

Please amend the claims as indicated.

1   1.   (currently amended) A method of obtaining a parameter of interest of an earth

2   formation using a tool conveyed within a borehole in the earth formation, the tool

3   having a body with a finite, non-zero conductivity, said method comprising:

4   (a)   using a transmitter on the tool for producing a first electromagnetic signal

5   in the earth formation;

6   (b)   using at least one receiver axially separated from said transmitter on said

7   tool for receiving a second ~~temporal~~ transient signal resulting from

8   interaction of said first signal with the earth formation, said second

9   ~~temporal~~ transient signal dependent upon said conductivity and said

10   parameter of interest; and

11   (c)   ~~using a processor for obtaining~~ determining from said second signal a

12   third ~~temporal~~ transient signal indicative of said parameter of interest and

13   substantially independent of said conductivity.

14

1   2.   (original) The method of claim 1, further comprising using said processor for

2   determining from said third signal said parameter of interest.

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10/647,483   4

1   3.   (original) The method of claim 1, wherein said parameter of interest is at least one

2   of (i) a resistivity of said formation, and, (ii) a distance to a bed boundary in said

3   formation.

4

1   4.   (currently amended) The method of claim 1, wherein a sensitivity of said third

2   ~~temporal~~ transient signal to said earth formation is substantially independent of a

3   spacing between said transmitter and said at least one receiver.

4

1   5.   (original) The method of claim 4, wherein said spacing between said transmitter

2   and said at least one receiver is approximately 2 meters.

3

1   6.   (currently amended) The method of claim 1, wherein using said processor in (c)

2   further comprises representing said second signal by a <u>time domain</u> Taylor series

3   expansion.

4

1   7.   (original) The method of claim 6, wherein said Taylor series expansion is in one

2   half of odd integer powers of time.

3

1   8.   (original) The method of claim 7, further comprising subtracting from said second

2   signal at least one leading term of the Taylor series expansion.

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10/647,483   5

1   9.   (original) The method of claim 1, wherein using said processor in (c) further

2   comprises applying a filter operation to said second signal.

3

1   10.   (original) The method of claim 9, wherein said filtering operation further

2   comprises a differential filtering operation.

3

1   11.   (original) The method of claim 10, wherein said differential filtering operation is

2   of the

3   form

$$\frac{\partial\left(t^{1/2}H_z\right)}{\partial t}$$

4

5   wherein t is time and H_z is a representation of said second signal.

6

1   12.   (original) The method of claim 9, wherein said filtering operation further

2   comprises an integral filtering operation.

3

1   13.   (original) The method of claim 12, wherein said integral filtering operation further

2   comprises defining a first and a second specified time.

3

1   14.   (original) The method of claim 1 wherein said tool is conveyed into the earth

2   formation on one of (i) a drilling tubular, and, (ii) a wireline.

10/647,483   6

3

1   15.   (currently amended) A system for determining a parameter of interest of an earth

2   formation having a borehole therein, comprising:

3   (a)   a tool ~~for use~~ used within said borehole, said tool having a body with a

4   finite, non-zero conductivity;

5   (b)   a transmitter ~~for producing~~ which produces a first electromagnetic signal

6   in the earth formation;

7   (c)   at least one receiver axially separated from said transmitter on said tool ~~for~~

8   ~~receiving~~ which receives a second ~~temporal~~ transient signal resulting from

9   interaction of said first signal with the earth formation, said second

10   ~~temporal~~ transient signal dependent upon said conductivity and said

11   parameter of interest; and

12   (d)   a processor ~~for obtaining~~ which determines from said second signal a third

13   ~~temporal~~ transient signal indicative of said parameter of interest, said

14   third transient signal ~~and~~ substantially independent of said conductivity.

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1   16.   (original) The system of claim 15, wherein said processor determines from said

2   third signal said parameter of interest.

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10/647,483   7

1   17.   (original) The system of claim 15, wherein said parameter of interest is at least

2   one of (i) a resistivity of said formation, and, (ii) a distance to a bed boundary in

3   said formation.

4

1   18.   (currently amended) The system of claim 15, wherein a sensitivity of said third

2   ~~temporal~~ transient signal to said earth formation is substantially independent of a

3   spacing between said transmitter and said at least one receiver.

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1   19.   (original) The system of claim 18, wherein said spacing between said transmitter

2   and said at least one receiver is approximately 2 meters.

3

1   20.   (currently amended) The system of claim 15 , wherein said processor represents

2   said second signal by a time domain Taylor series expansion.

3

1   21.   (original) The system of claim 20, wherein said Taylor series expansion is in one

2   half of odd integer powers of time.

3

1   22.   (original) The system of claim 21, wherein said processor further subtractins from

2   said second signal at least one leading term of said Taylor series expansion.

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10/647,483   8

1   23.   (currently amended) The system of claim 15, wherein said processor ~~in~~ further

2   applies a filtering operation to said second signal.

3

1   24.   (original) The system of claim 23, wherein said filtering operation further

2   comprises a differential filtering operation.

3

1   25.   (original) The system of claim 24, wherein said differential filtering operation is

2   of the form

3    $$\frac{\partial\left(t^{1/2}H_z\right)}{\partial t}$$

4

        wherein t is time and H_z is a representation of said second signal.

5

1   26.   (original) The system of claim 23, wherein said filtering operation further

2   comprises an integral filtering operation.

3

1   27.   (original) The system of claim 26, wherein said integral filtering operation further

2   comprises defining a first and a second specified time.

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1   28.   (currently amended) The system of claim 15 further comprising a drilling tubular

2   ~~for conveying~~ which conveys said tool into the earth formation.

10/647,483   9

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1   29.   (currently amended) The system of claim 15 further comprising a wireline ~~for~~

2   ~~conveying~~ <u>which conveys</u> said tool into the earth formation.*

10/647,483   10